Benchmarking the Mean Streets of NYC and Beyond

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BRIGHT POWER *Smart, Sustainable Energy Solutions*

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Bright Power provides practical energy management and solar energy solutions that save building owners energy, money and time. We focus on multifamily residential buildings, enabling them to reduce waste, improve cash flow, achieve energy law compliance and make building occupants more comfortable. Clients include building owners, management companies, developers, contractors, architects, governments and utility companies.

Our services include: energy benchmarking using our ENERGYSCORECARDS software, energy audits, financial and technical feasibility analysis, energy management, grant & rebate assistance, green building (LEED®) consulting and trainings for professionals and building managers. Our design and installation services include: solar electricity and solar thermal systems; heating, cooling & HVAC systems; lighting design; construction management and commissioning.

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News

Visit News page.

09.19.2013 | **Garrison Institute Climate, Buildings, and Behavior Symposium**

Bright Power CEO Jeff Perlman will participate in a panel discussion on Creating an Energy...
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08.27.2013 | **NYC Sustainability Summit**

Andrew McNamara will moderate the panel on New Development Sustainability with...
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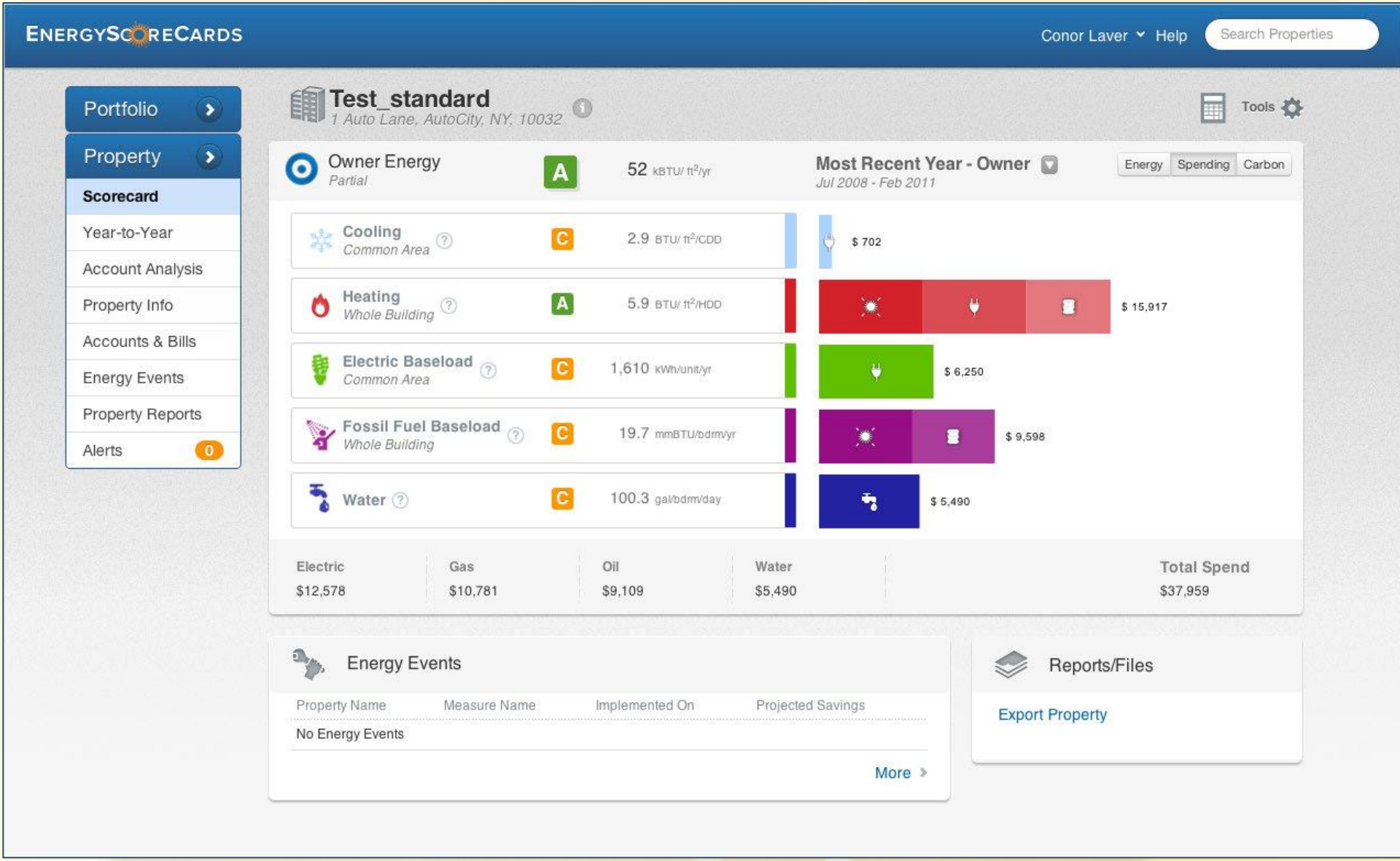
07.31.2013 | **WinnCompanies launches Open Market ESCO**

With technical assistance from Bright Power, WinnCompanies' pilot program will fund energy-...
More

BRIGHT POWER INTRODUCTION

- Energy Management Partner for our clients
- Services include Auditing, Benchmarking, Solar Design, Construction Management, Procurement
- Focused on large multifamily properties in New York
- 9 years old
- 50+ employees
- Based in downtown Manhattan

ENERGYSCORECARDS (SUBSIDIARY OF BRIGHT POWER)



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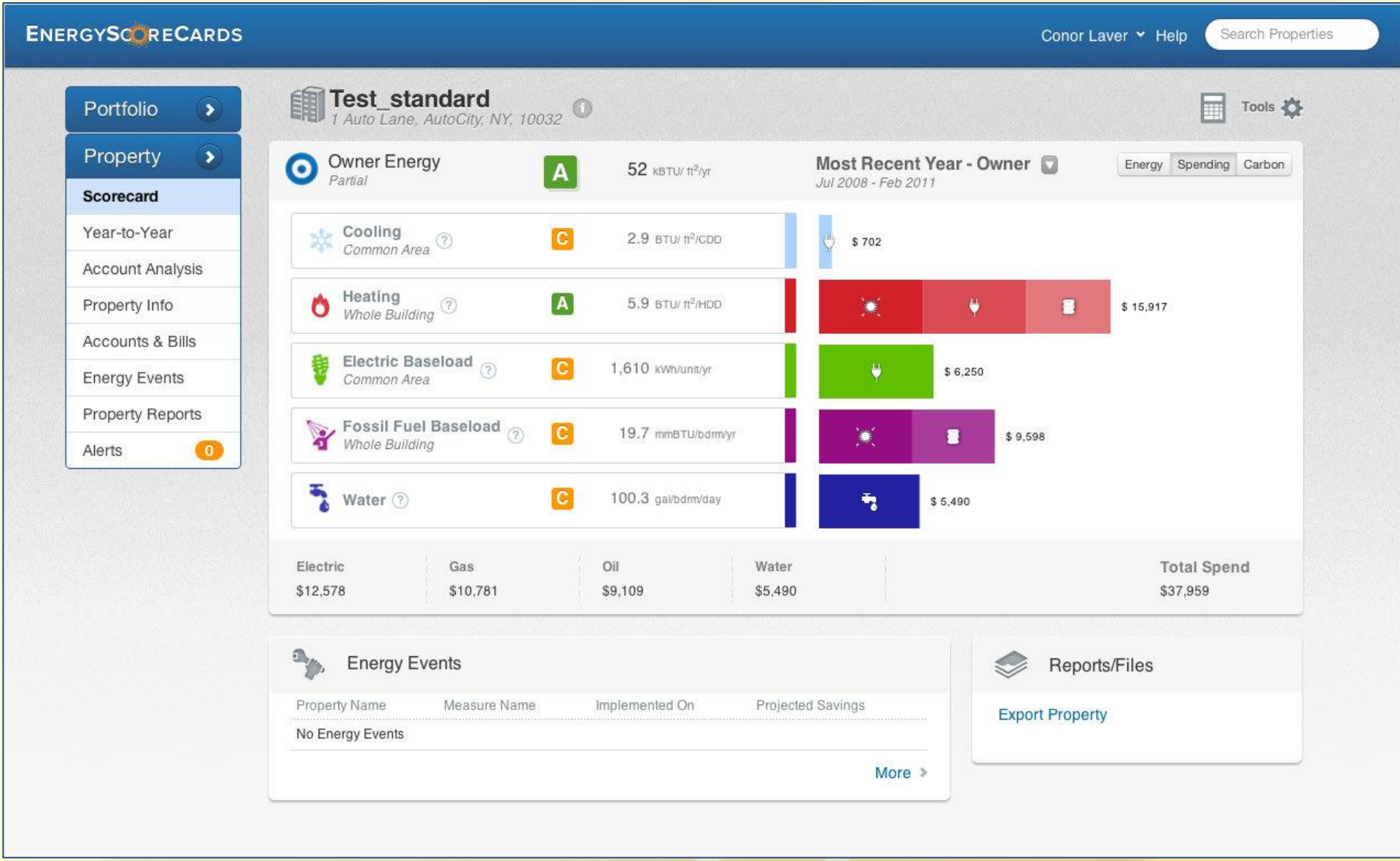
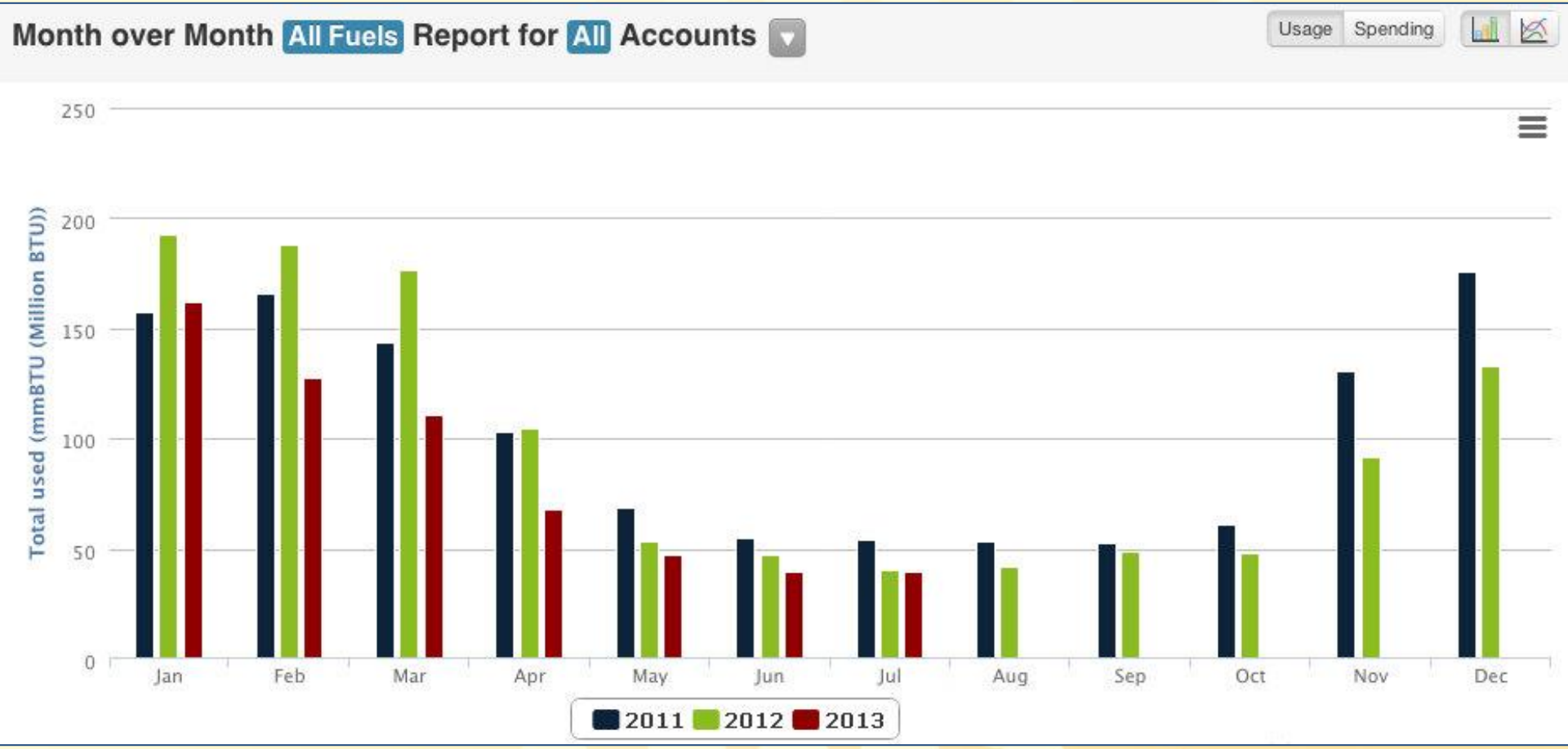
EnergyScoreCards Basics

- Multifamily Benchmarking Online Tool
- Peer Grading
- 4 years old
- Half a Billion square feet benchmarked
- 49 States
- 5000 large multifamily properties
- > 1.5 million utility bills

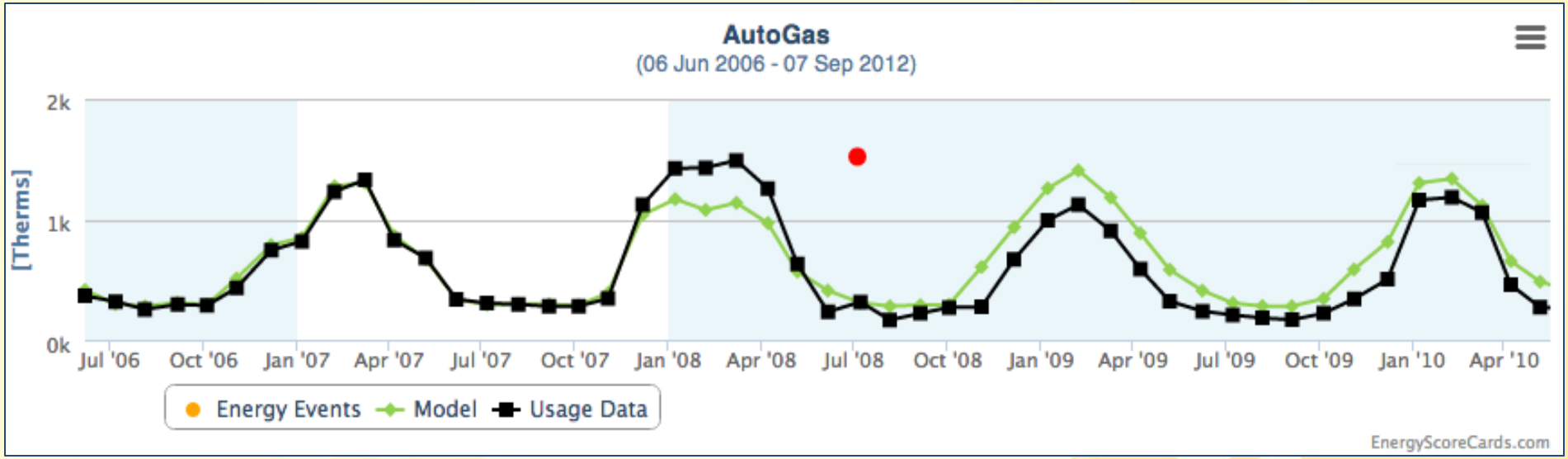
THE EPONYMOUS SCORECARD



MULTI-YEAR COMPARISONS



WHAT HAPPENS WHEN BOILERS GO BAD….



PORTFOLIO DASHBOARD

Overall Grade

C

Grade	#Props
A(!)	3
A	27
B	22
C	32
D	29
D(!)	3
N/A	2

Electricity	$3,197,698	26,887,570	kWh
Gas	$2,154,179	2,279,313	Therms
Oil	$1,161,016	64,901	mmBTU
Propane	$116,287	83,431	Gal
Steam	$99,303	5,252	MLbs
Water	$2,149,767	238,266	kGal

Total Properties	Total Units	Total Square Footage	Owner Spending
118	9,974	8,185,792	$8,878,251

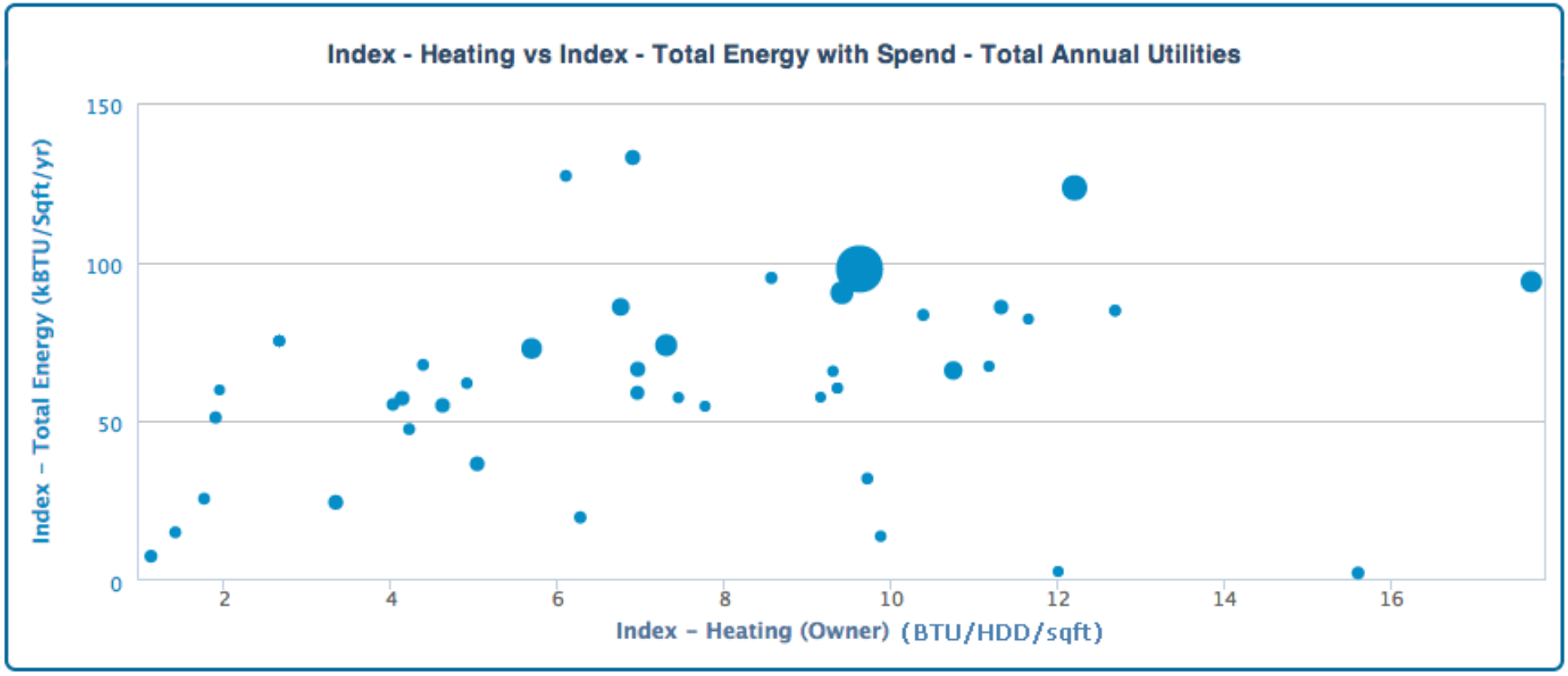
PortFolio Year to Year Comparison

Owner | Total | Weather Normalized | Actual

There are 28 out of 128 properties with both scorecards

Energy Use	Full Year 2012	Most Recent Year	Difference		Unit
Owner Energy	102,458	99,073	-3,385	-3%	mmBTU
Cooling Energy	4,265	4,852	586	14%	mmBTU
Heating Energy	42,547	40,711	-1,836	-4%	mmBTU
Electric Baseload Energy	29,307	27,279	-2,027	-7%	mmBTU
Fossil Fuel Baseload Energy	26,339	26,232	-107	0%	mmBTU

A MILLION GRAPHS…



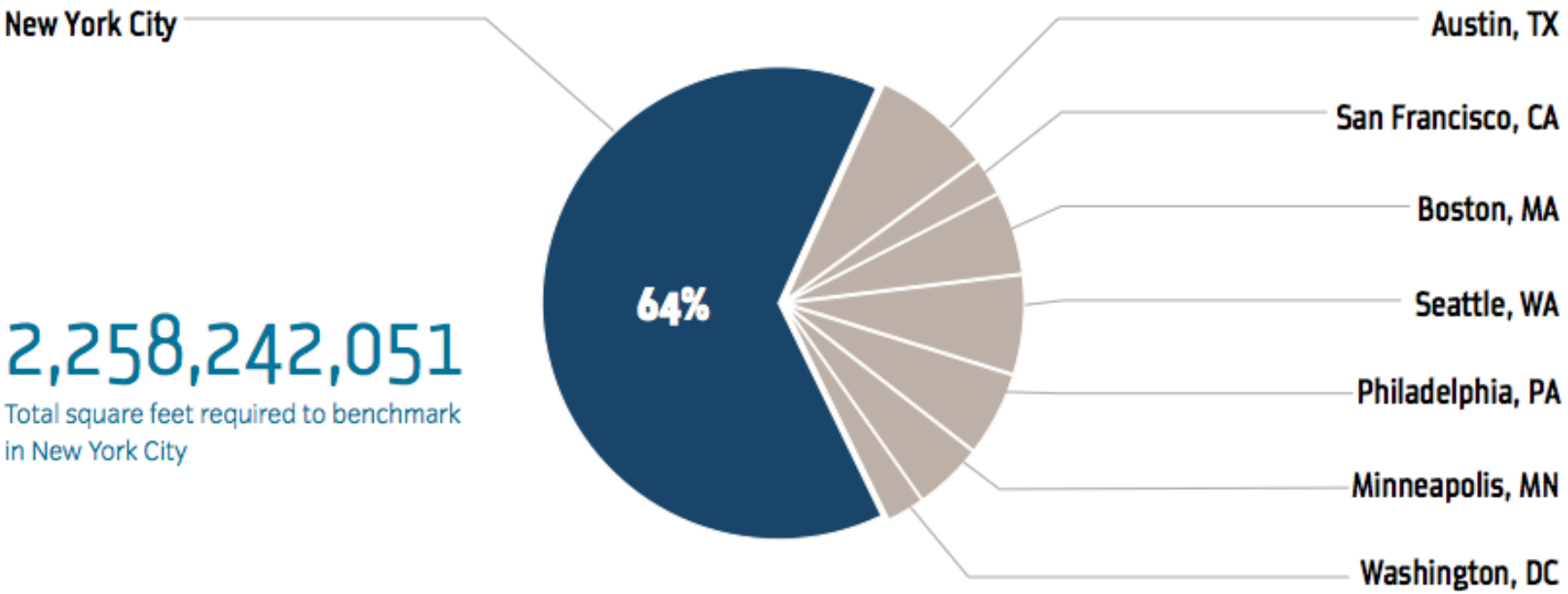
NEW YORK'S LOCAL LAW 84

New York's Local Law 84

- All Properties over 50,000 sqft must benchmark in EPA's Portfolio Manager every year
- Fines are $500 a quarter for non-compliance
- All submission and reporting done using EPA Portfolio Manager
- Great success three years running, minor blip this year with security
- Created hundreds jobs in NYC
- Starting to trigger action, owner's who had never thought about this before. Local Law 87 is bringing that home.

THE BENCHMARKING PICTURE SO FAR

[Fig. 2] **Gross Floor Area Impacted by U.S. Benchmarking Regulations**



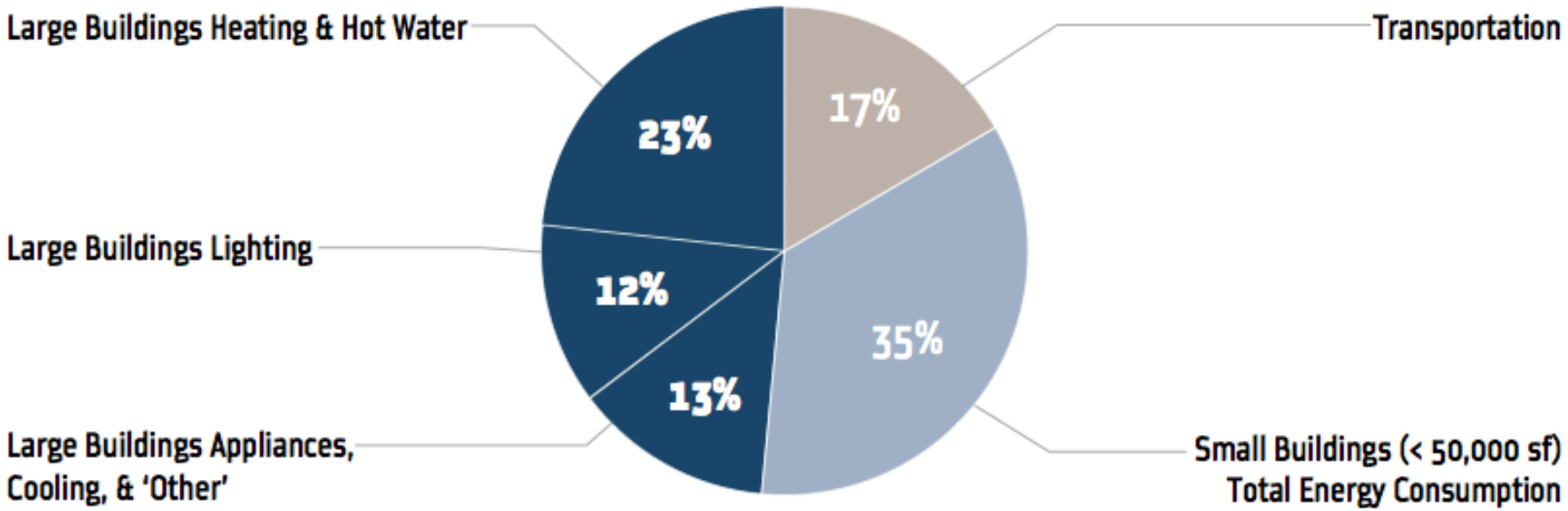
2,258,242,051

Total square feet required to benchmark in New York City

Source: Institute for Market Transformation and NYC Mayor's Office

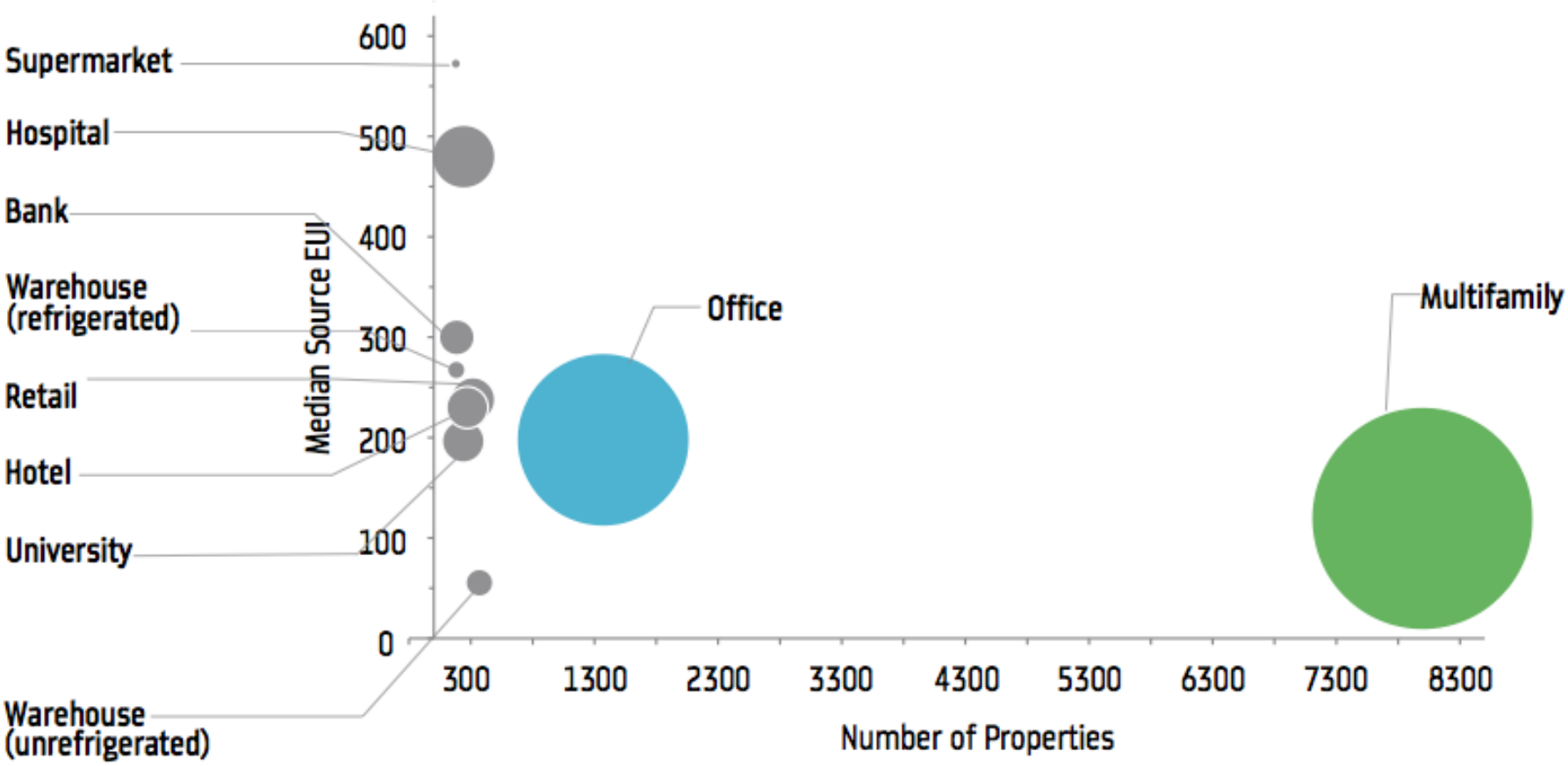
THE BENCHMARKING PICTURE SO FAR

[Fig. 1] **Energy Use in New York City, 2011**



Source: NYC Mayor's Office

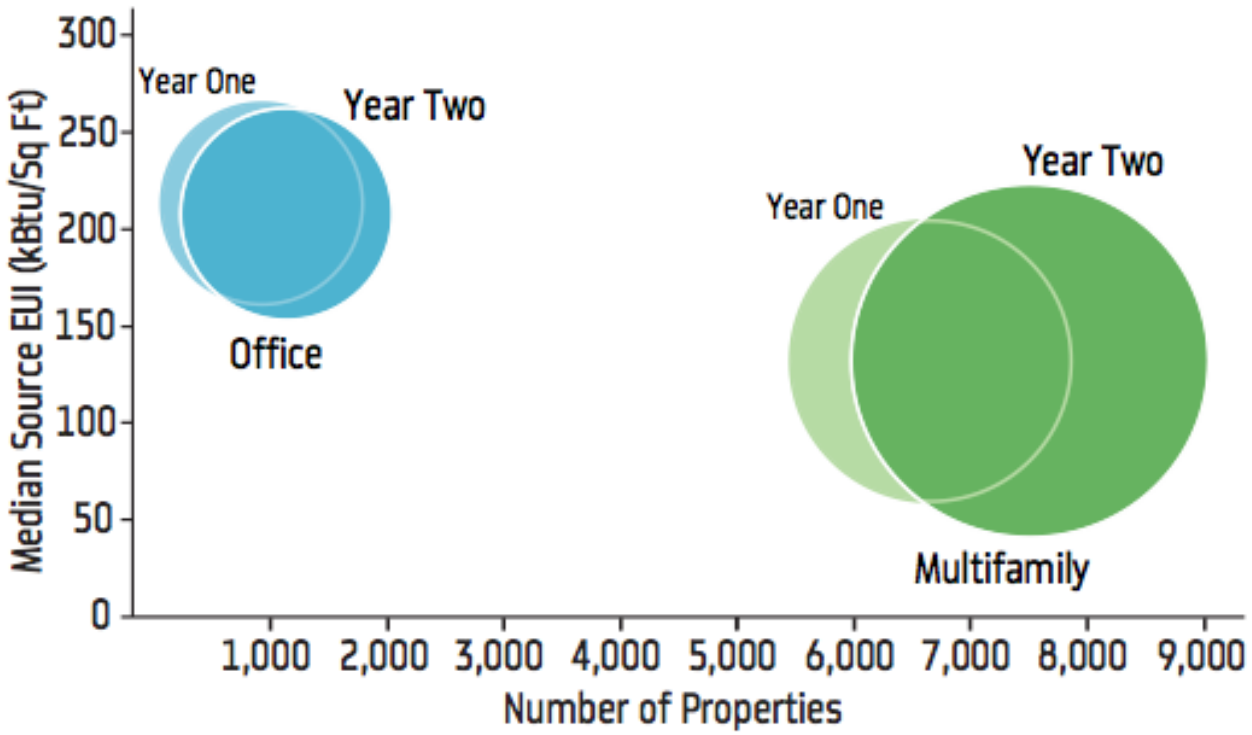
THE BENCHMARKING PICTURE SO FAR



Source: University of Pennsylvania and NYC Mayor's Office

RESULTS BY SECTOR FOR NEW YORK

[Fig. 18] **Median EUI, Number of Properties and Total Energy Per Sector, Year One vs. Year Two[19]**



Source: University of Pennsylvania and NYC Mayor's Office

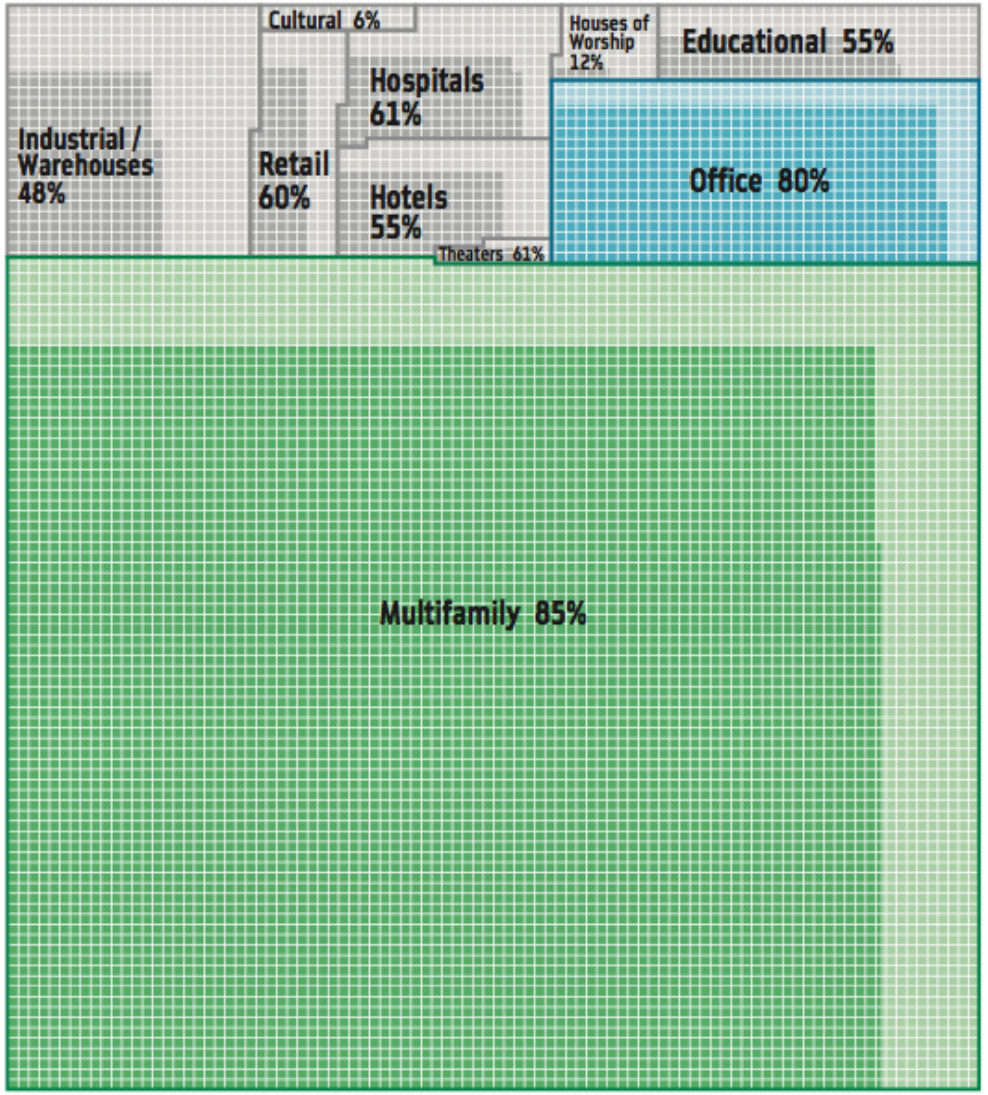
How well did NYC comply?

74%

gross floor area that achieved compliance in Year Two

1,668,232,620

square feet of gross floor area that achieved compliance in Year Two



□ = 250,000 sq. ft.

Source: NYC Mayor's Office

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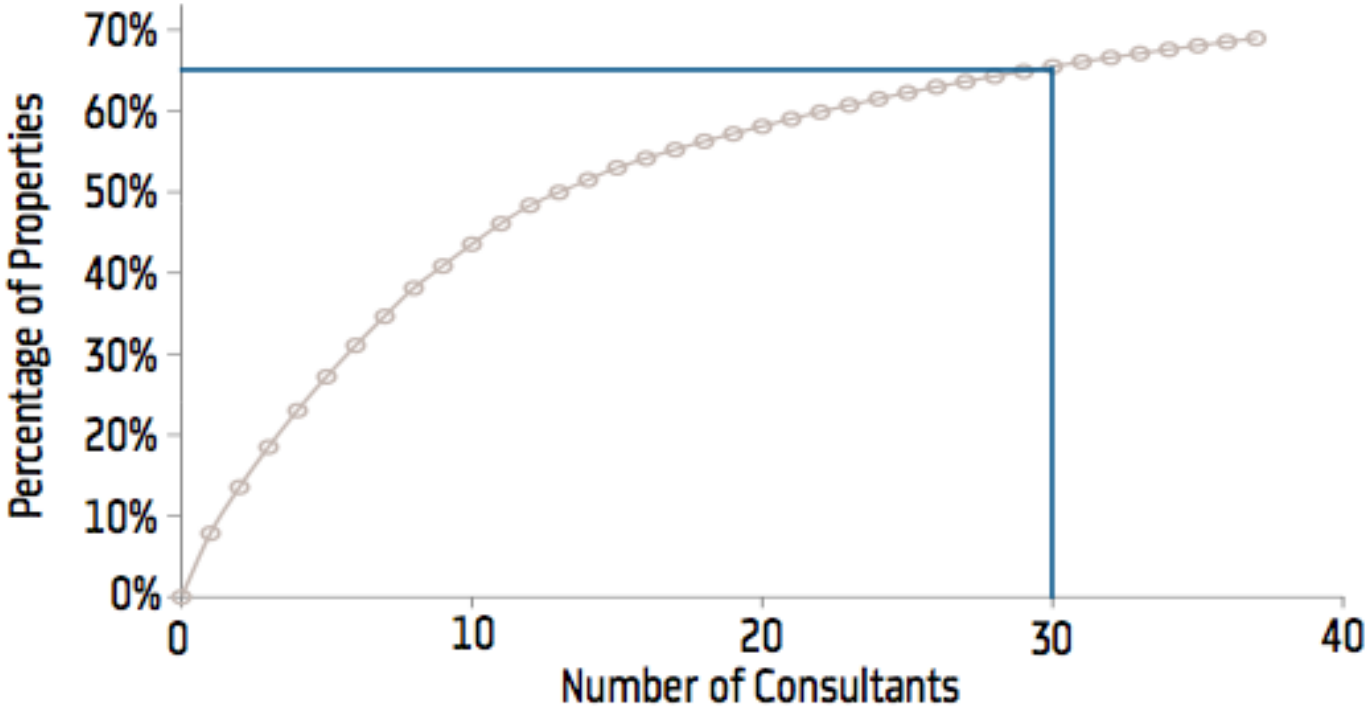
THE ROLE OF CONSULTANTS

[Fig. 32] **Percentage of Properties Benchmarked by Service Provider Firms**



Source: NYC Mayor's Office

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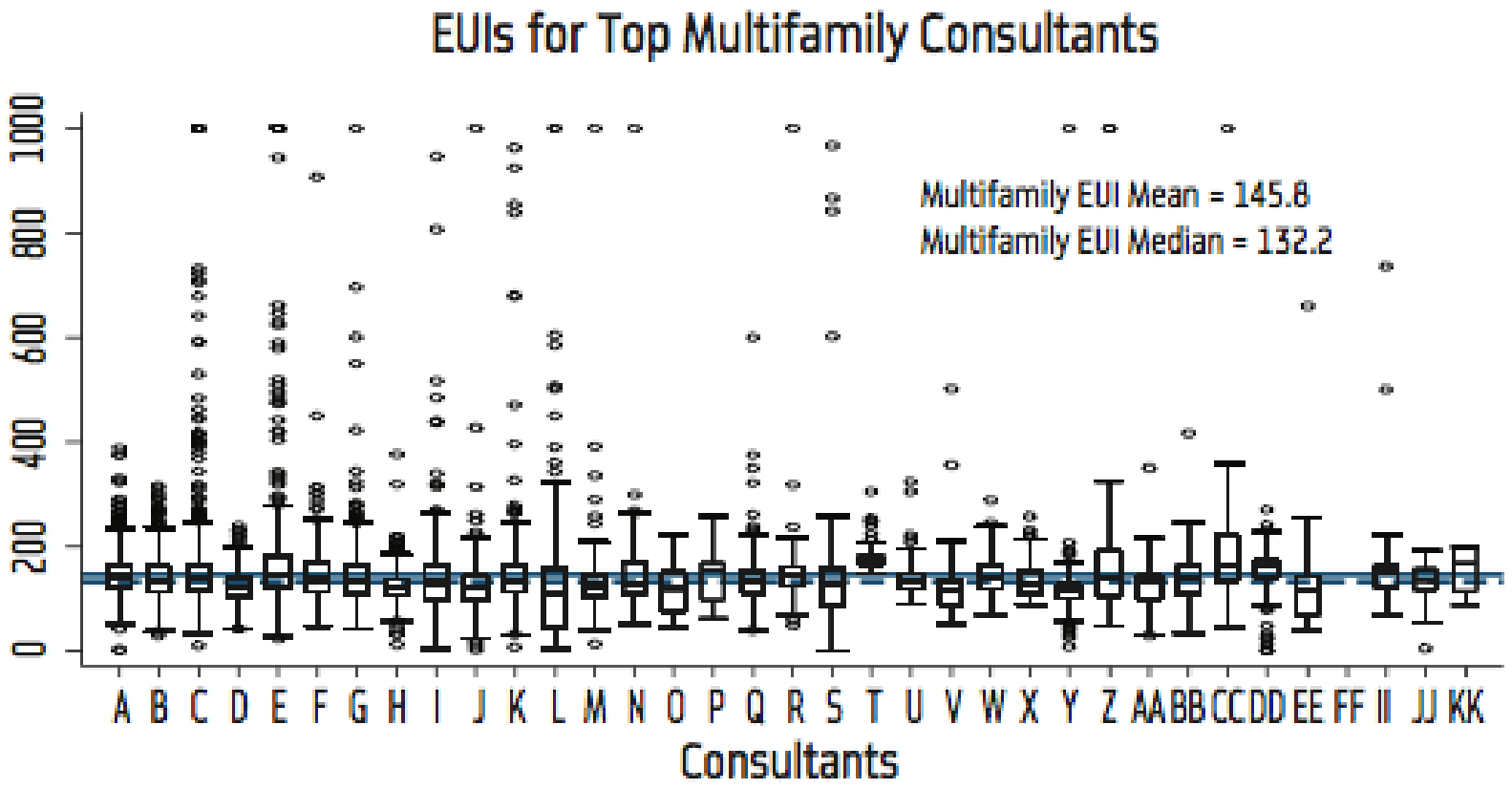
How did the Consultants compare to each other?

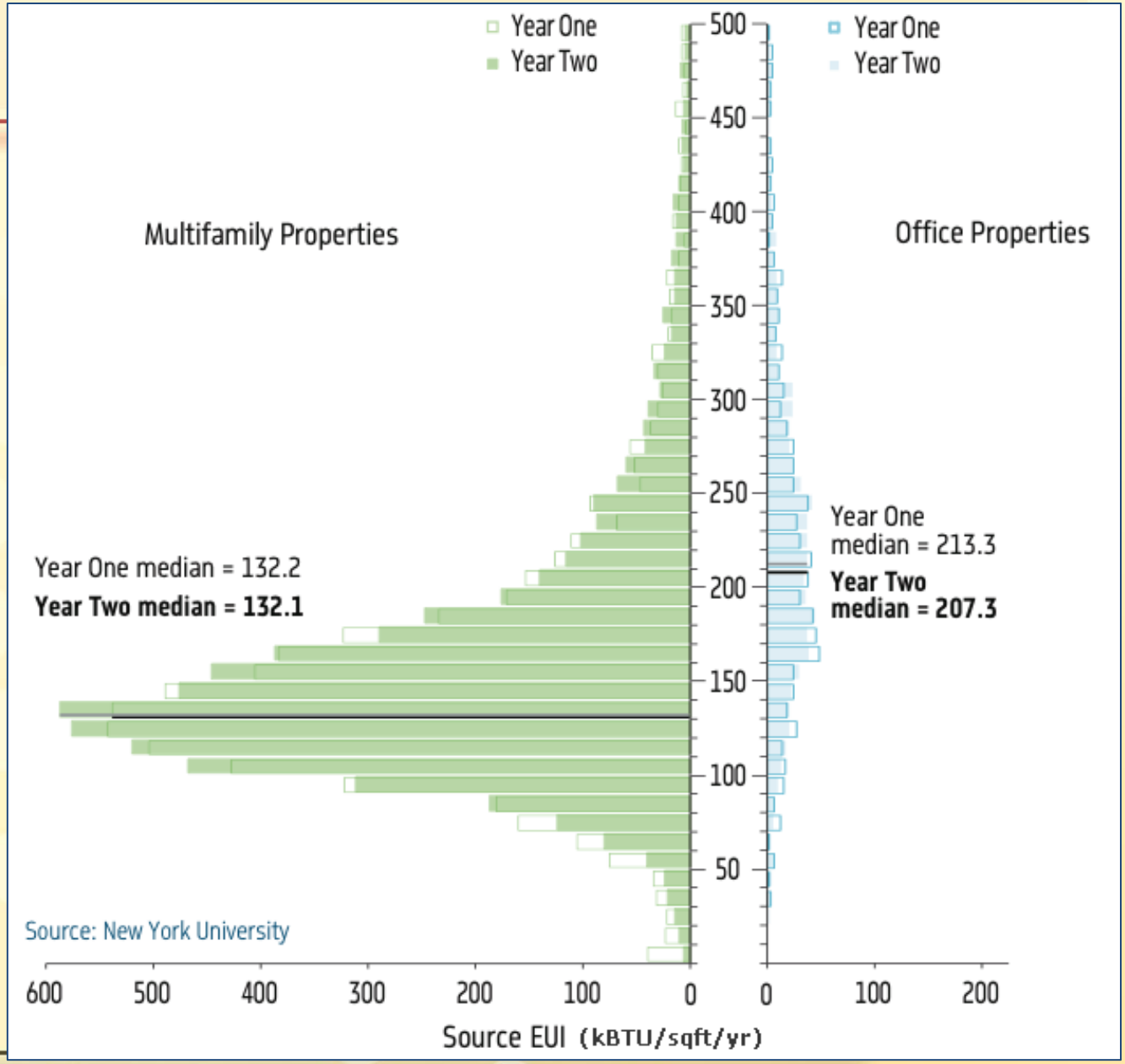


CURRENT PROBLEMS WITH THE NY PROCESS

- City's list of buildings is not accurate
- Utility companies only partially cooperative
  - ConEdison aggregates challenging
  - New ConEd logins
  - AMR registration
  - Utilities don't think of buildings the same way as the city
- Violation challenge process non-transparent and slow
- Tenant data difficult in multi-building lots
- Commercial tenant reporting
- Need Official Confirmation Notice of submission

DATA DRIVEN CHANGE

Overall results: Dagum, Burr, Gamma?



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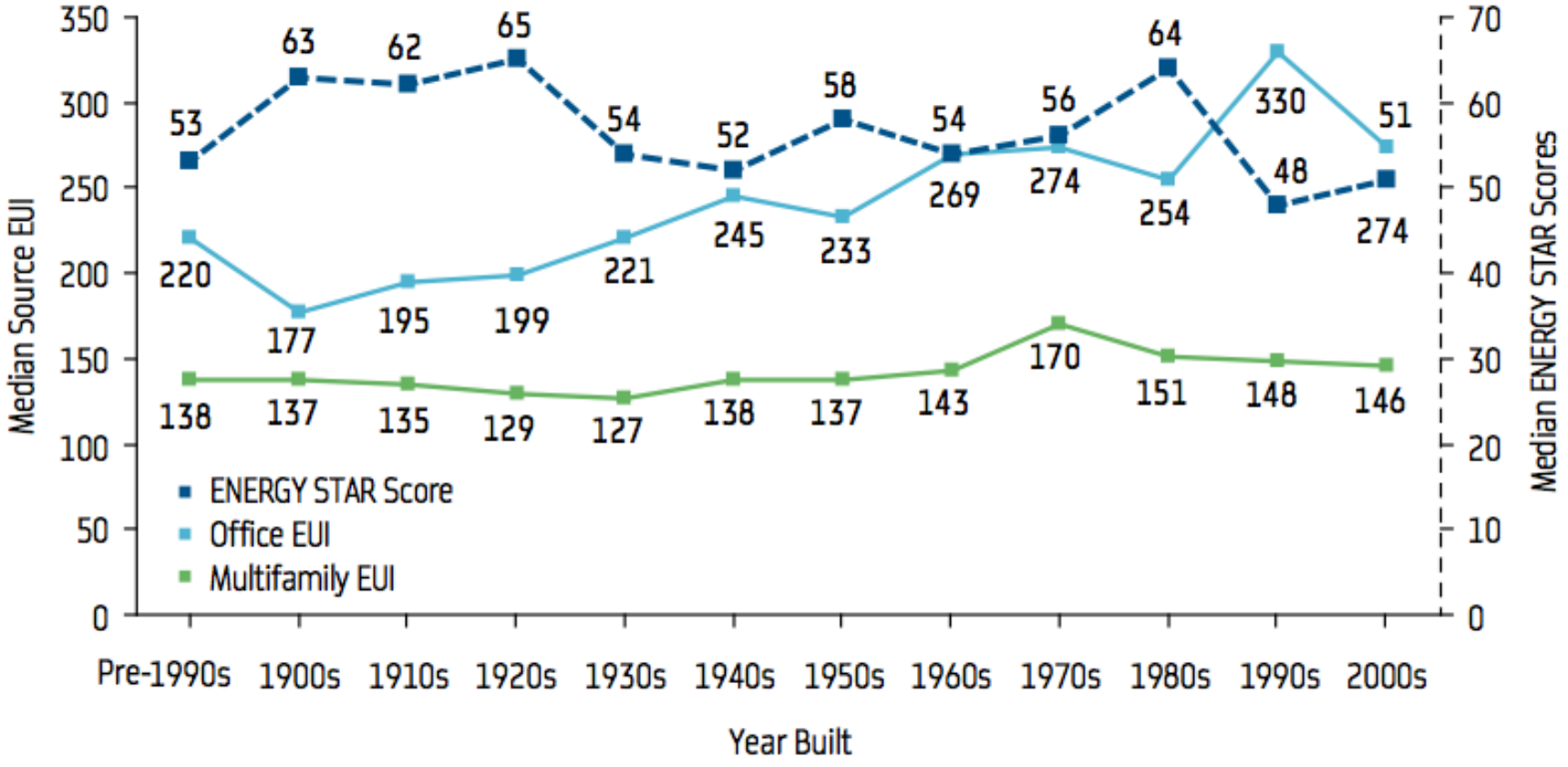
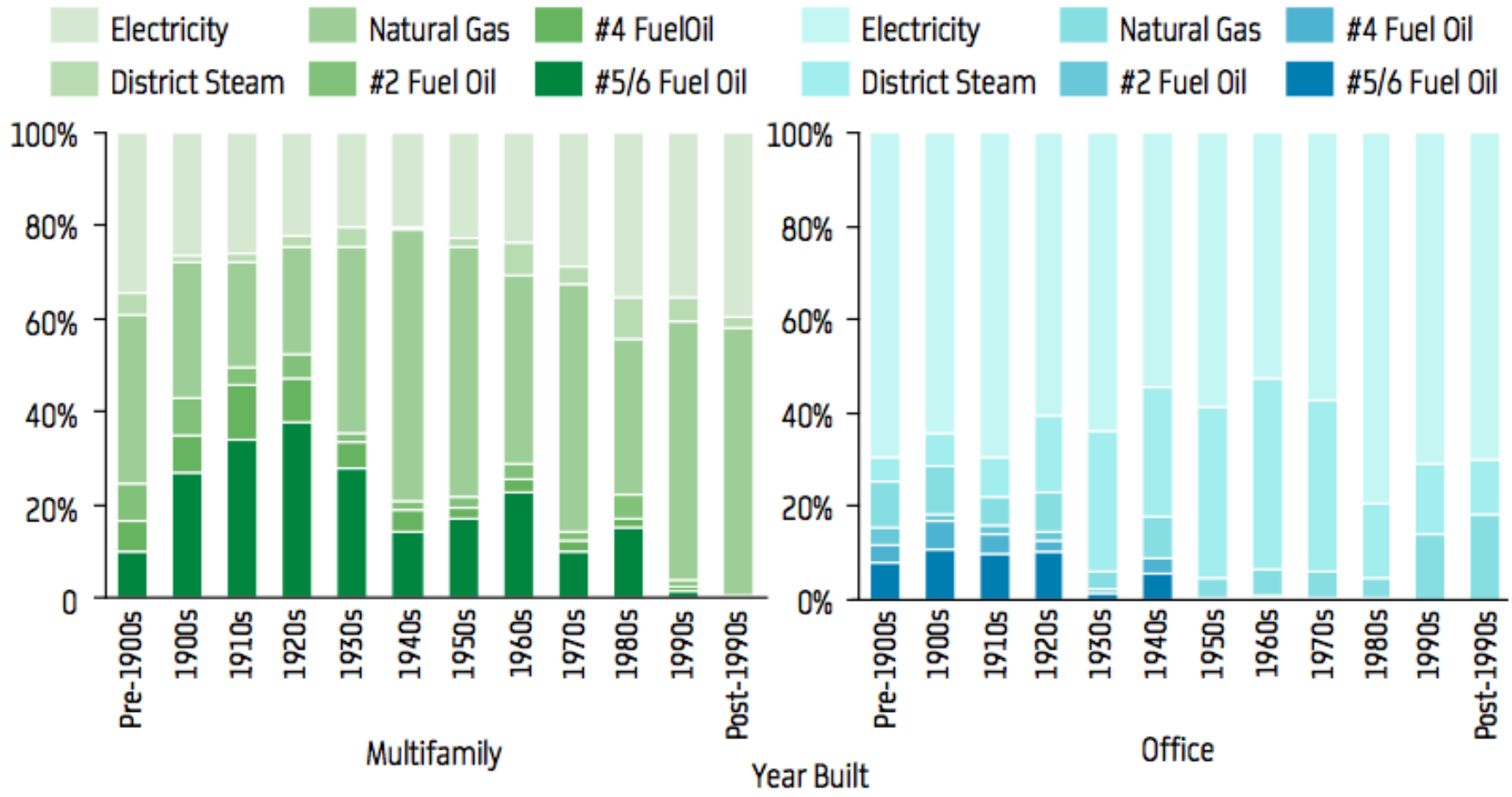
DATA DRIVEN CHANGE: DOES AGE MATTER?

[Fig. 21] **Median Source EUI and ENERGY STAR Score by Building Sector and Built Year**



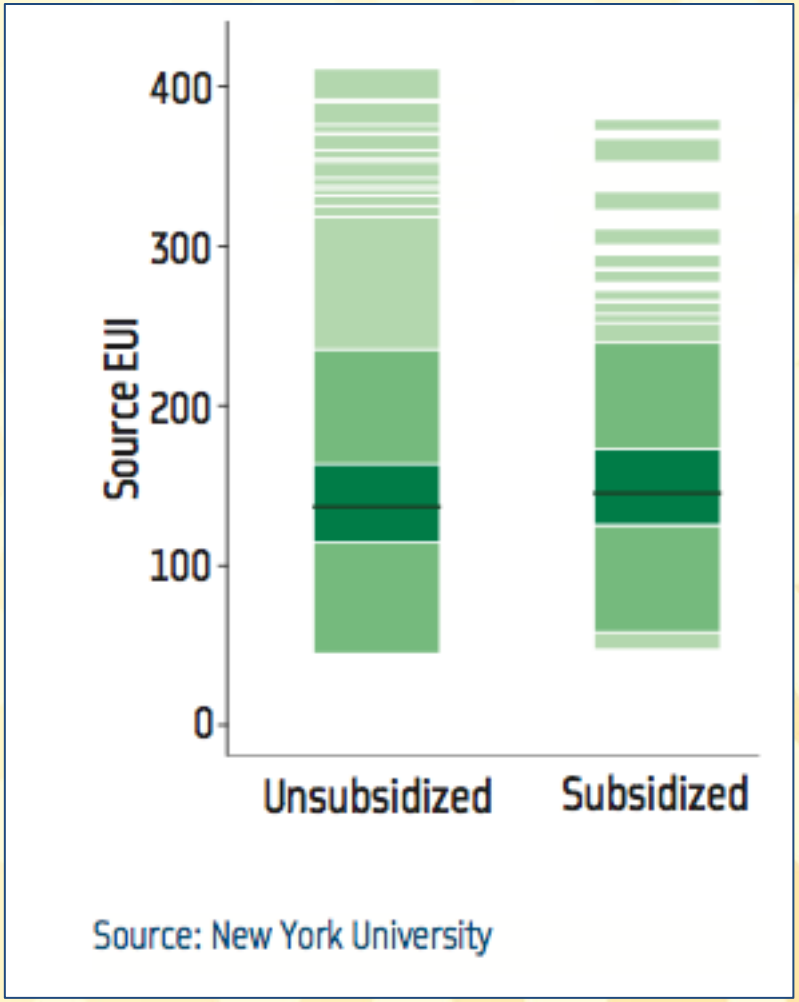
Source: New York University and NYC Mayor's Office

DATA DRIVEN CHANGE: DOES FUEL MIX MATTER?

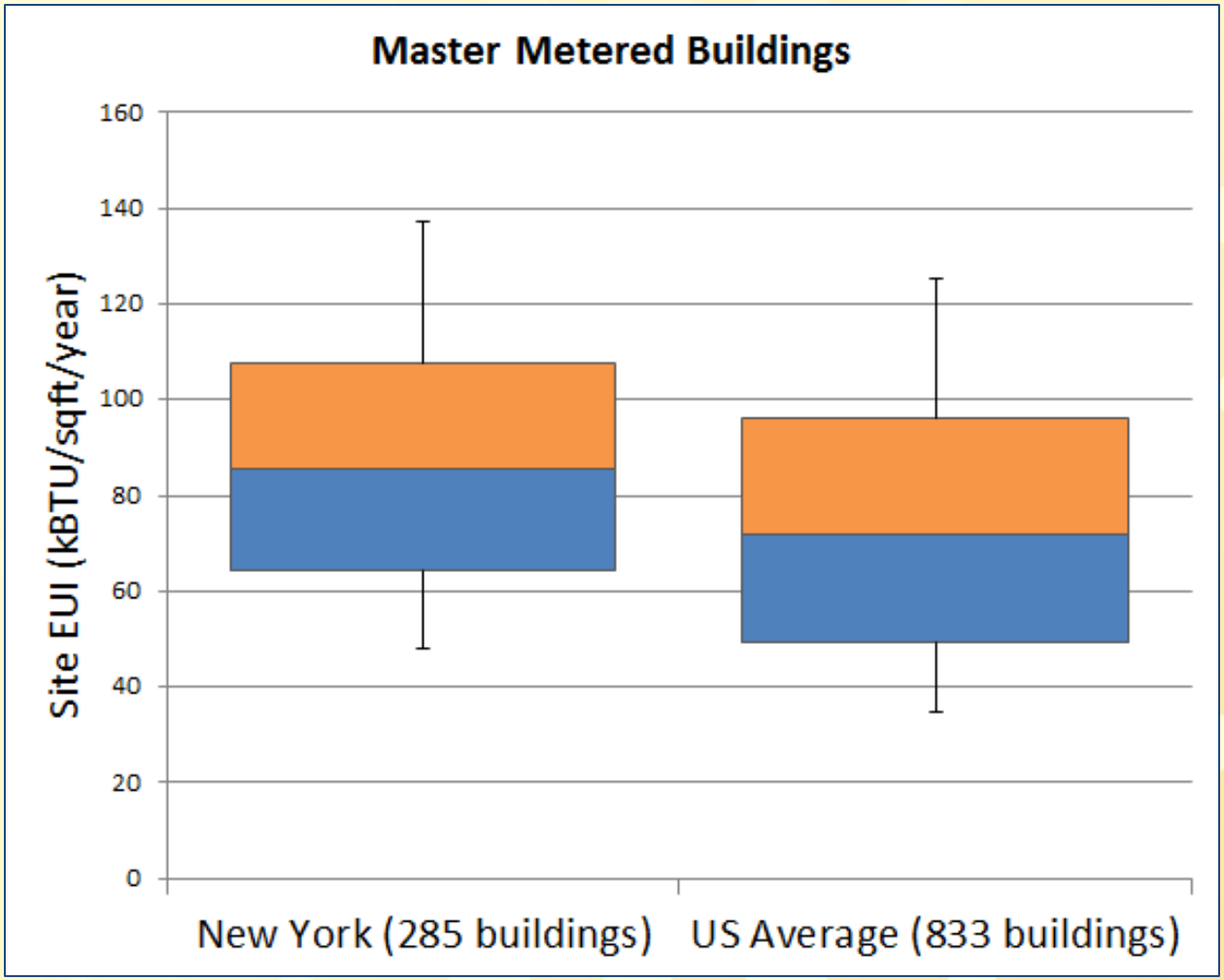


Source: New York University and NYC Mayor's Office

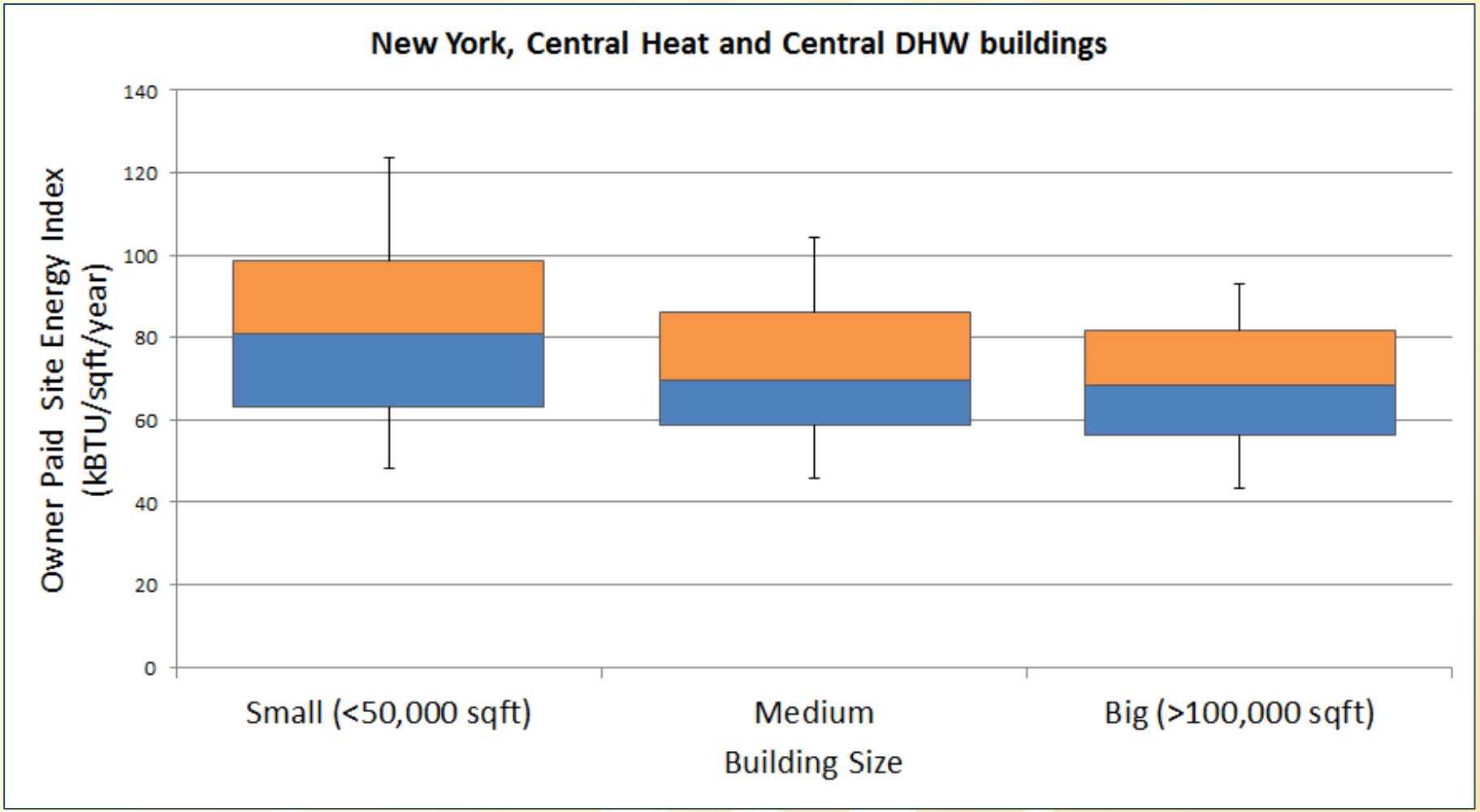
DATA DRIVEN CHANGE: DOES SUBSIDIZED HOUSING MATTER?



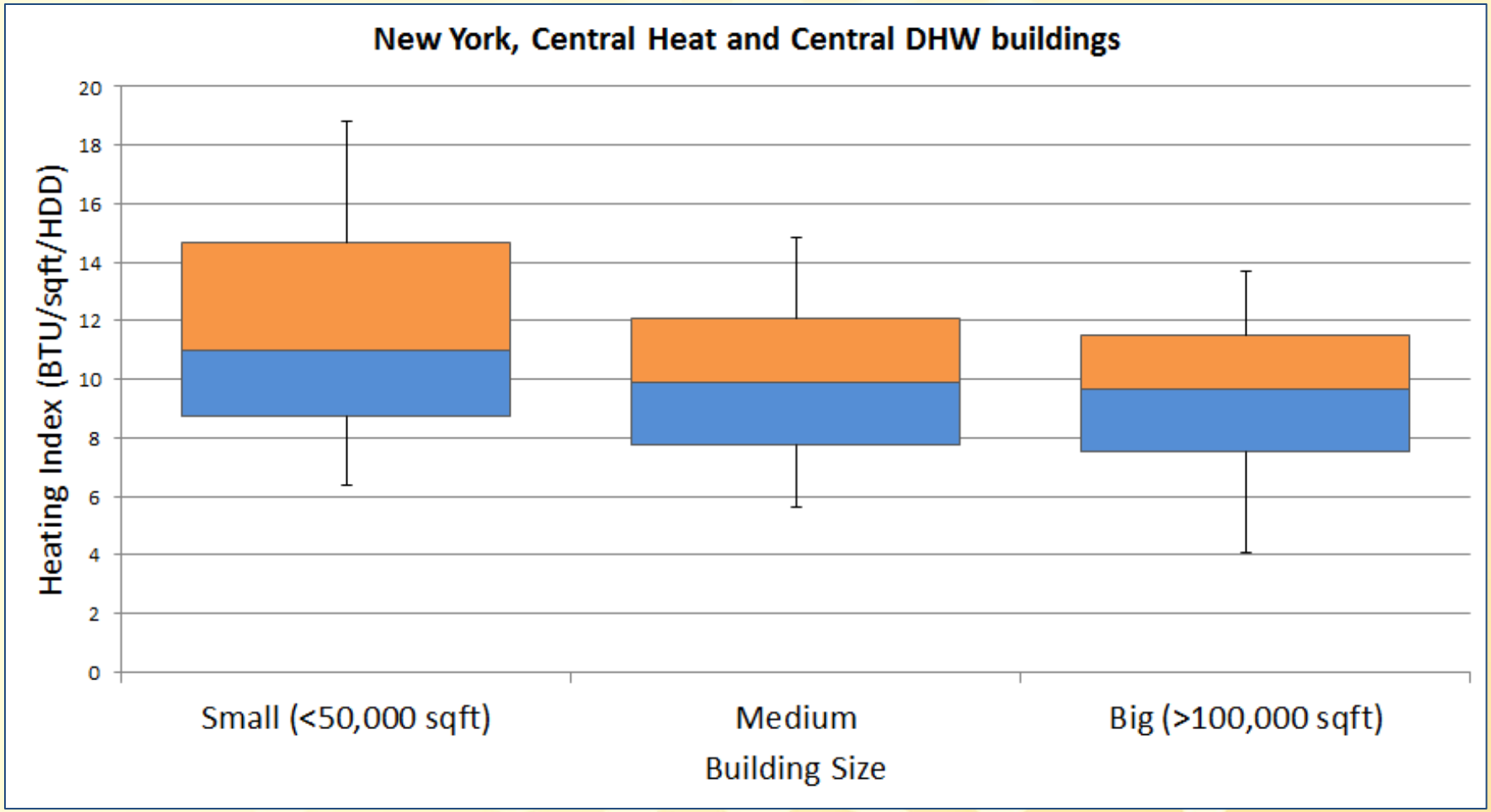
DATA DRIVEN CHANGE: WHY IS NEW YORK SO BAD?



DATA DRIVEN CHANGE: THE SMALL BUILDING PROBLEM



DATA DRIVEN CHANGE: ECONOMIES OF SCALE - HEATING



HOPES FOR THE FUTURE

- Multi-year studies of existing buildings, best improved scores etc
- Utility company integrations, DEP(municipal water) has started in NYC and many others around the country already integrate.
- Central database as a reference for more building metadata, violations, could be hosted in Portfolio Manager or on a 3rd party sites
- Multifamily score, both a blessing and a curse for consultants like us. (mostly a blessing).

Friends of Benchmarking Questions

"Second Year White Paper" written by Adam Hinge, Sustainable Energy Partnerships and Michael Bobker, CUNY

- "What are the right metrics to measure building performance?"
- "What can we learn from the metrics we have?"
- "What are the next steps for existing metrics?"
- "What's needed to focus attention and raise awareness?"

About Bright Power:

Bright Power is an Energy Efficiency Services Company that has been providing energy solutions, auditing and benchmarking services to New York City and the rest of the country for 9 years.

About EnergyScoreCards:

EnergyScoreCards is Bright Power's building benchmarking web software. Currently it covers nearly 500,000 multifamily units or nearly 500 million square feet of residential space in 49 states. Go to www.energyscorecards.com for more info.

About Conor Laver:

Conor Laver is Vice President at Bright Power in charge of the Analysis and Software division.